Who is the authority?

Authority Control in Linked Data Environment

Jing Wang

ELAG 2013
Ghent, Belgium
May 28-31, 2013
JOHNS HOPKINS
International Collaborations

The 45 shaded nations represent 141 institutions with which Johns Hopkins or one of its divisions have established a major, ongoing collaboration.
Brody Learning Common
New addition to Sheridan libraries
http://steve-dale.net/2012/04/27/overcoming-barriers-to-workplace-collaboration/
Poll #1

• Seen demo or participate VIVO webinars
• Worked with VIVO
VIVO: connect . share . discover

Agent
- Person
- Organization
- Group

Resource
- Publication
- Facility
- Software

Activities:
- Project
- Event
- Service

......
VIVO: search and discover

- people
- organizations
- research
- grants
- activities
- courses
- events
- locations

- Data visualization | Concept
- Data Collection | Concept
- Data Infrastructure | Department
- data management
- Data, Saiti | Person
- Electronic Data Capture | Concept
- Identifying Data Providers | Invited Talk
VIVO: navigate via linkage

**Publications**

- Selected publications
  - Article: [User Testing and VIVO](#) 2011
  - Conference paper: [Role of librarians in the development of lessons learned from VIVO implementation](#)

**Teaching**

- Teaching activities
  - GM_7093 Summer 2010 4415

**Contributor**

- Joe Smith
- Mary Johnson
# VIVO: ontology

<table>
<thead>
<tr>
<th>#</th>
<th>Ontology</th>
<th>Namespace</th>
<th>Prefix</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Bibontology</td>
<td><a href="http://purl.org/ontology/bibo/">http://purl.org/ontology/bibo/</a></td>
<td>bibo</td>
</tr>
<tr>
<td>2</td>
<td>Dublin Core elements</td>
<td><a href="http://purl.org/dc/elements/1.1/">http://purl.org/dc/elements/1.1/</a></td>
<td>dcelem</td>
</tr>
<tr>
<td>3</td>
<td>Dublin Core terms</td>
<td><a href="http://purl.org/dc/terms/">http://purl.org/dc/terms/</a></td>
<td>dcterms</td>
</tr>
<tr>
<td>4</td>
<td>Event Ontology</td>
<td><a href="http://purl.0/NET/c4dm/event.owl#">http://purl.0/NET/c4dm/event.owl#</a></td>
<td>event</td>
</tr>
<tr>
<td>5</td>
<td>FOAF</td>
<td><a href="http://xmlns.com/foaf/0.1/">http://xmlns.com/foaf/0.1/</a></td>
<td>foaf</td>
</tr>
<tr>
<td>6</td>
<td>geopolitical.owl</td>
<td><a href="http://aims.fao.org/aos/geopolitical.owl#">http://aims.fao.org/aos/geopolitical.owl#</a></td>
<td>geo</td>
</tr>
<tr>
<td>7</td>
<td>JHU VIVO extension</td>
<td><a href="http://vivodev.library.jhu.edu/ontology/vivo-jhublib/">http://vivodev.library.jhu.edu/ontology/vivo-jhublib/</a></td>
<td>jhuvivo</td>
</tr>
<tr>
<td>8</td>
<td>provenance support</td>
<td><a href="http://vivoweb.org/ontology/provenance-support#">http://vivoweb.org/ontology/provenance-support#</a></td>
<td>pvs</td>
</tr>
<tr>
<td>9</td>
<td>Research Resources (eagle-i)</td>
<td><a href="http://purl.obolibrary.org/obo/">http://purl.obolibrary.org/obo/</a></td>
<td>ero</td>
</tr>
<tr>
<td>10</td>
<td>Scientific Research</td>
<td><a href="http://vivoweb.org/ontology/scientific-research#">http://vivoweb.org/ontology/scientific-research#</a></td>
<td>scires</td>
</tr>
<tr>
<td>11</td>
<td>SKOS (Simple Knowledge Organization System)</td>
<td><a href="http://www.w3.org/2004/02/skos/core#">http://www.w3.org/2004/02/skos/core#</a></td>
<td>skos</td>
</tr>
<tr>
<td>13</td>
<td>VIVO core</td>
<td><a href="http://vivoweb.org/ontology/core#">http://vivoweb.org/ontology/core#</a></td>
<td>vivo</td>
</tr>
</tbody>
</table>
VIVO core ontology, eagle-i, & ISF

Enter a term name in the search box below to see a list of matches in the eagle-i vocabulary. Alternatively, browse the term hierarchy using the left sidebar.

Instrument

Definition: Any type of equipment, machine, apparatus or device that is designed for scientific investigation.

Annotations: ClassGroup_InstanceCreate ClassGroup_PrimaryResourceType

*indicates a required property

Properties:

- Access Restriction(s) string
- Additional Name string
- Contact Person
- Developed by Organization Person
- Exchange facilitator string
- Inventory Number string
- Location Organization
- Manufacturer Organization Person
- Model Number string

https://search.eagle-i.net/model/
**VIVO: data ingest**

VIVO harvests much of its data automatically from verified sources:
- Reducing the need for manual input of data.
- Centralizing information and providing an integrated source of data at an institutional level.

**Internal data sources:**
- Institutional data
- User Data

**External data sources:**
- Provider data

Data stored as RDF triples using standard ontology.

VIVO data is available for reuse by web pages, applications, and other consumers both within and outside the institution.

Source: VIVO Overview, [http://www.vivoweb.org/support](http://www.vivoweb.org/support)
Poll #2

Library shall maintain broader spectrum of research metadata
- beyond publications and dataset
- including other research resources such as facilities, software, instrument, which are related to research process rather than research output
Why we need authority control

- Consistency
- Completeness
- Un-ambiguity
- Accuracy
Linked data: heterogeneous

• cross multiple sources/domain
  o unclear boundary
  o unclear ownership
Welcome to the Science of Learning Institute

The mission of the newly formed Science of Learning Institute is to understand the most essential part of our human capital: the ability to learn. The Institute supports research and application that seeks to understand learning at all levels of scientific inquiry—including how the brain changes through learning, how development and aging affects our ability to learn, how neurological and psychiatric diseases disrupt or change learning, and why there are such vast individual differences that naturally occur among learners. A central part of the mission is to understand how new technologies such as machine learning and new educational programs can optimize learning—whether it occurs in the informal setting of the playground, the more formal setting of a school, a rehabilitation setting, or in the workplace.

Dr. Tim Moran
Professor, Department of Psychiatry and Behavioral Sciences (SOM); Director, Behavioral Neuroscience Lab

Our overall research program is aimed at identifying the roles of various neural signaling pathways in the controls of food intake and body weight and how these systems go...
What is a record?

- Person
- position
- Organization
- website
- name
Metadata quality control opportunities and challenges:

Accuracy:
- multiple data sources,
- less control on quality

Completeness:
- broad spectrum of data sources,
- less control on access and reuse
Other metadata qualities

• provenance
• interoperable
• compatible
• trust
Metadata curation

• Library is not the authority
• Library has less control on metadata quality
• Library’s new role - Metadata curation:
  o identify authoritative metadata sources and evaluate quality
  o negotiate access and reuse policy
  o facilitate metadata discovery and reuse
Challenges

identify the research metadata that researcher needs most to publish and consume for discovery and collaboration
Reference/additional readings

• VIVO: https://wiki.duraspace.org/display/VIVO/VIVO+Main+Page

• Metadata quality in a linked data context: http://blog.law.cornell.edu/voxpath/2013/01/24/metadata-quality-in-a-linked-data-context/
Questions?